

AMENDMENTS TO THE CLAIMS

1. (original) A process for the removal of sulfur from a hydrocarbon stream, wherein said hydrocarbon stream is a combination of cracked gasoline and diesel fuel, said process comprising:

(a) contacting said hydrocarbon stream with a composition comprising a zinc oxide, a silica-containing material, an aluminum-containing material selected from the group consisting of alumina, aluminate, and combinations thereof, and a promoter wherein at least a portion of said promoter is present as a reduced valence promoter and in an amount which will effect the removal of sulfur from said hydrocarbon stream in a desulfurization zone under conditions such that there is formed a desulfurized hydrocarbon stream and a sulfurized composition;

(b) separating said desulfurized hydrocarbon stream from said sulfurized composition thereby forming a separated desulfurized hydrocarbon stream and a separated sulfurized composition;

(c) regenerating at least a portion of said separated sulfurized composition in a regeneration zone so as to remove at least a portion of the sulfur contained therein and/or thereon thereby forming a regenerated composition;

(d) reducing said regenerated composition in an activation zone so as to provide a reduced composition having a reduced valence promoter content therein which will effect the removal of sulfur from a hydrocarbon stream when contacted with same; and thereafter

(e) returning at least a portion of said reduced composition to said desulfurization zone.

2. (original) A process in accordance with claim 1, wherein said diesel fuel is light cycle oil.

3. (original) A process in accordance with claim 1 wherein said desulfurization in step (a) is carried out at a temperature in the range of from about 100°F to about 1000°F and a pressure in the range of from about 15 to about 1500 psia for a time sufficient to effect the removal of sulfur from said stream.

4. (original) A process in accordance with claim 1 wherein said desulfurization in step (a) is carried out at a temperature in the range of from 400°F to 900°F.

5. (amended) A process in accordance with claim 1 wherein said regeneration in step (c) is carried out at a temperature in the range of from about 100°F to about 1500°F ~~and a pressure in the range of from about 10 to about 1500 psia~~ for a time sufficient to effect the removal of at least a portion of the sulfur from said separated sulfurized composition.

6. (original) A process in accordance with claim 1 wherein air is employed in step (c) as a regeneration agent in said regeneration zone.

7. (original) A process in accordance with claim 1 wherein said regenerated composition from step (c) is subjected to reduction with hydrogen in step (d) in said reduction zone which is maintained at a temperature in the range of from about 100°F to about 1500°F and at a pressure in the range of from about 15 to about 1500 psia and for a period of time sufficient to effect a reduction of the valence of the promoter content of said regenerated composition.

8. (original) A process in accordance with claim 1 wherein said separated sulfurized composition from step (b) is stripped prior to introduction into said regeneration zone in step (c).

9. (original) A process in accordance with claim 1 wherein said regenerated composition from step (c) is stripped prior to introduction to said reduction zone in step (d).

10. (canceled)

11. (canceled)